

## References

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1. Kirillov, Ch. L., Yuriev, Yu. S., and Bobkov, V. P., *Handbook on Thermohydraulic Calculations (Nuclear Reactors, Heat Exchangers, Steam Generators)*, Energoatomizdat Press, Moscow, 1984 (in Russian).
2. Katinas, V. J., Žiugžda, J. J., and Žukauskas, A. A., Heat Transfer from Curved Bodies in Transverse Flow of Viscous Fluids, *Heat Transfer – Soviet Research*, 1971, **3**, No. 6, 10–33.
3. Žukauskas, A. A., and Ulinskas, R., *Heat Transfer in Tube in Cross-Flow*, Hemisphere Publishing Corporation, New York, 1988.
4. Žukauskas, A. A., *High-Performance Single-Phase Heat Exchangers*, Hemisphere Publishing Corporation, New York, 1989.
5. Katinas, V. J., Markevičius, A. A., and Žukauskas, A. A., Heat Transfer Behaviour of Vibrating Tubes Operating in Crossflow, (2. Local and Average Heat Transfer Coefficients), *Heat Transfer – Soviet Research*, 1986, **18**, No. 1, 10–17.
6. Nakayama, W., Enhancement of Heat Transfer. Heat Transfer, 1982, *Proc. 7th Int. Conf.*, München, September 6-10, 1982, Washington, 1982, Vol. 1, pp. 223–240.
7. Bergles, A. E., Enhancement of Heat Transfer, *6th Int. Heat Transfer Conf.*, Toronto, 1978, Ottawa, 1978, Vol. 6, pp. 89–108.
8. Kalinin, E. K., Dreitser, G. A., and Yarkho, S. A., *Enhancement of Heat Transfer in Channels*, Mashinostroyeniye Press, Moscow, 1981 (in Russian).
9. Dreitser, G. A., *Contact Heat Exchangers*, MAI Press, Moscow, 1986 (in Russian).
10. Žukauskas, A. A., and Katinas, V. J., Fluid Dynamic Forces on Vibrating Tubes of Heat Exchangers in Cross Flow. Flow-Induced Vibration in Cylindrical Structures: Solitary Cylinders and Arrays in Cross-Flow, *Proc. of Int. Symp. on Flow-Induced Vibration and Noise*, 1988, Chicago, 11. New York, 1988, Vol. 1, pp. 127–142.
11. Žukauskas, A. A., Ulinskas, R., and Katinas, V., *Fluid Dynamics and Flow-Induced Vibrations of Tube Banks*, Hemisphere Publishing Corporation, New York, 1988.
12. Budov, V. M., and Farafonov, V. A., *Designing the Primary Equipment of an Atomic Electric Power Plant*, Energoatomizdat Press, Moscow, 1985 (in Russian).

13. Ananiev, V. P., *Nuclear Plants in Power Engineering*, Atomizdat Press, Moscow, 1978 (in Russian).
14. *Heat Exchanger Design Handbook. Mechanical Design of Heat Exchangers*, Vol. 4, 4, 6, Flow-Induced Vibration, Hemisphere Publishing Corporation, New York, 1983.
15. Fritzsche, A. F., *Gestaltung und Berechnung von Ölkühlern*, Diss. T. H., Zurich, 1953.
16. Gay, B., Mackley, N. V., and Jenkins, J. D., Shell-Side Heat Transfer Coefficients in Cylindrical Heat Exchangers. The Influence of Geometrical Factors. II – the Leakage Case, *Letters in Heat and Mass Transfer*, 1981, **8**, No. 6, 437–452.
17. Witmann, D., *Die Vermeidung von Leckströmungen in Rohrbündelwärme – austauschern*, Dechema Monogr., 1980, **Bd. 87**, 257–266.
18. Berner, C., Durst, F., and McEligot, D. M., Flow around Baffles, *Trans. ASME, J. Heat Transfer*, 1984, **106**, No. 4.
19. Taborek, J., Evolution of Shell-and-Tube Heat Exchanger Design. *Heat Transfer Eng.*, 1980, **2**, No. 2, 69–73.
20. Chenoweth, J. H., Design of Shell-and-Tube Heat Exchangers to Avoid Flow-Induced Vibration, *Heat Transfer*, 1982, München, 1982, **6**, 173–178.
21. Roshko, A., Experiments on the Flow Past a Circular Cylinder at Very High Reynolds Number, *J. Fluid Mech.*, 1961, **10**, Part 3, 345–356.
22. Devnin, S. I., *Hydroelasticity of Structures in a Detached Flow*, Sudostroyeniye Press, Leningrad, 1975 (in Russian).
23. Fung, Y. C., Fluctuating Lift and Drag Acting on a Cylinder in Flow at Supercritical Reynolds Numbers, *J. of the Aerosp. Sci.*, 1960, **27**, No. 11, 801–814.
24. Bishop, R. E. D., and Hassan, A. Y., The Lift and Drag Forces on a Circular Cylinder in a Flowing Fluid, *Proc. of the Roy. Soc., Ser A, Math. and Phys. Sci.*, 1965, **227**, No. 1368, 32–50.
25. Gerrard, J. H., An Experimental Investigation of the Oscillating Lift and Drag of a Circular Cylinder Shedding Turbulent Vortices, *J. of Fluid Mech.*, 1961, **11**, Part 2, 244–256.
26. Kazakevich, M. I., Aeroelastic Vibrations of Bluff Bodies in a Wind Flow, *Nonlinear Vibration Problems* (Polish People's Republic), 1981, No. 20, 17–45.
27. Funakawa, M., and Umakoshi, R., Vibration of a Cylinder Caused by Wake Force, *Bull. of JSME*, 1971, **14**, No. 67, 39–47.
28. Chen, Y. N., Vibrations Excited by Wakes on Circular Cylinders at Supercritical Reynolds Numbers, *Sulzer Techn. Rev.*, 1966, Research Number, 70–77.
29. Skop, R. A., and Griščin, O. M., A Model for the Vortex-Excited Resonant Response of Bluff Cylinders, *J. of Sound and Vibration*, 1973, **27**, No. 2, 225–233.
30. Sedov, Ya. I., *Phase Problems of Fluid Dynamics and Aerodynamics*, Gostekhizdat Press, Moscow–Leningrad, 1950 (in Russian).
31. Barshtein, M. F., *Dynamic Design of Tall Structures of Cylindrical Shape. Studies on the Dynamics of Structures*, Gosstroyizdat Press, Moscow, 1957, pp. 6–43 (in Russian).
32. Funakawa, M., The Vibration of a Cylinder Caused by Wake Force in a Flow, *Bull. of JSME*, 1969, **12**, No. 53, 1003–1010.
33. Alyamovskiy, M. I., and Prokofiev, K. A., Approximate Method of Determining the Amplitudes in Self-Oscillations of Condenser Tubes by the Action of Aerodynamic Forces, *Sudostroyeniye*, 1956, No. 7, 7–12.
34. Fedyavskiy, K. K., and Blyumina, L. Kh., *Fluid Dynamics of Detached Flow Past Bodies*, Mashinostroyeniye Press, Moscow, 1977 (in Russian).
35. Drescher, H., Messung der auf querangeströmte Zylinder ausgeübten zeitlich verändernden Drücke. *Zeitschrift für Flugwissenschaften*, 1956, **Bd. 4**, H. 1/2, 16–21.
36. Chen, K. N., Fluctuating Lift Forces of the Karman Vortex Streets on Single Circular Cylinders and in Tube Bundles, Parts I–III, *Journal of Engineering for Industry*, 1972, **94**, No. 2, 603–630.
37. Owen, P. R., Buffeting Excitation of Boiler Tube Vibration, *J. of Mech. Eng. Sci.*, 1965, **7**,

- No. 4, 431–439.
38. Gregorig, R., and Andritzky, H. K. M., Ein Schwingungskriterium eines quer angeströmten Rohres, *Chem. Ing. Tech.*, 39 Jahrgang, 1967, 1, H. 15, 894–900.
  39. Andritzky, K. M., and Gregorig, R., Ein Schwingungskriterium eines quer angeströmten Rohres, *Chem. Ing. Tech.*, 40 Jahrgang, 1968, 2, H. 9/10, 483–488.
  40. König, A., and Gregorig, R., Ein Schwingungskriterium eines quer angeströmten Rohres, *Chem. Ing. Tech.*, 40 Jahrgang, 1968, 3, H. 13, 645–650.
  41. Chen, Y. M., Flow-Induced Vibration and Noise in Tube Bank Heat Exchangers Due to Von Karman Streets, *Journal of Engineering for Industry*, 1968, 90, No. 1, 134–146.
  42. Chen, Y. N., Karman Vortex Streets and Flow-Induced Vibrations in Tube Banks, *Journal of Engineering for Industry*, 1973, 95, No. 1, 410–413.
  43. Thorngren, J. T., Predict Exchanger Tube Damage, *Hydrocarb. Proc.*, 1970, 49, No. 4, 129–131.
  44. Connors, H. J., Fluidelastic Vibrations of the Tube Arrays Excited by Cross Flow. Flow-Induced Vibration in Heat Exchangers, *Proc. of ASME*, Winter Annual Meeting, New York, December 1, 1970, pp. 48–56.
  45. Žukauskas, A. A., and Katinas, V., Fluid Dynamic Forces on Vibrating Tubes of Heat Exchangers in Cross-Flow, *J. of Fluids and Structures*, 1991, 5, 279–298.
  46. Tanaka, H., Takahara, S., Kagava, K., and Ota, K., Study on Fluid-Elastic Vibration of Tube Arrays Using Model Analysis Technique, *Techn. Rev. Mitsubishi Heavy Industries*, 1980, 17, No. 2, 97–107.
  47. Belvins, R. D., *Flow-Induced Vibration*, Van Nostrand Reinhold Company, New York – Toronto, 1977.
  48. Weaver, D. S., and Grover, L. K., Cross-Flow Induced Vibrations in a Tube Bank-Turbulent Buffeting and Fluid Elastic Instability, *J. of Sound and Vibration*, 1978, 59, No. 2, 277–294.
  49. Paidoussis, M., Flow-Induced Vibrations in Nuclear Reactors and Heat Exchangers. Practical Experiences with Flow-Induced Vibration, *Proc. of JAHR/JUTAM Symposium*, Karlsruhe 1979, Springer Verlag, Berlin, Heidelberg, New York, 1980, pp. 1–81.
  50. Chenoweth, J. M., and Kistler, R. S., *Tube Vibrations in Shell-and-Tube Heat Exchangers*, Techn. Rep., Alhambra, California, Heat Transfer Research, Inc., 1976, pp. 1–16.
  51. Gorman, D. J., Experimental Development of Design Criteria to Limit Liquid Cross-Flow-Induced Vibration in Nuclear Reactor Heat Exchange Equipment, *Nucl. Sci. and Eng.*, 1976, 61, 324–336.
  52. Heinecke, E., *Model Tests of Fluid-Elastic Vibration in Heat Exchangers with Tubes in Cross-Flow. Gas-Cooled Reactors with Emphasis on Advanced Systems*, Intern. Atomic Energy Agency, Vienna, 1976, 2, 43–49.
  53. Chen, Y. N., Criteria of the Cross-Flow-Induced Tube Vibrations in Tube Bank Heat Exchangers. Vibr. in Nuclear Plant, *Proc. of Intern. Conf.*, Keswick, UK, May 9–12, 1978, London, BNES, 1979, Vol. 2, pp. 249–272.
  54. Chen, S. S., *Flow-Induced Vibration of Circular Cylindrical Structures*, Hemisphere Publishing Corporation, Washington, New York, London, 1987.
  55. Chen, S. S., Experiments on Fluidelastic Vibrations of Cantilevered Tube Bundles, *Journal of Mechanical Design*, 1978, 100, No. 3, 540–548.
  56. Vicaitis, R., and Shinozuka, M., *Simulation of Flow Induced Vibrations*, Meeting preprint No. 2218, ASME Nation. Struct. Eng. Meeting, Cincinnati, Ohio, April 22–26, 1974, 1–26.
  57. Parkinson, G. V., Wind-Induced Instability of Structures, *Phil. Trans. of the Royal Soc. of London*, Ser. A. Math. and Phys. Sci., 1971, 269, No. 1199, 395–409.
  58. Cohan, L. J., and Deane, W. J., Elimination of Destructive, Self-Excited Vibrations in Large Gas and Oil Fired Utility Units, *Journal of Engineering for Power*, 1965, 87, No. 2, 223–230.
  59. Hill, R. S., and Armstrong, G., Aerodynamic Sound in Tube Banks, *Proc. of the Phys. Soc.*, 1962, 79, Part 1, No. 507, 225–227.

60. Putman, A. A., Flow-Induced Noise in Heat Exchangers, *J. of Eng. for Power, Ser. A.*, 1959, **81**, No. 4, 417–422.
61. Fitzpatrick, J. A., and Donaldson, I. S., Preliminary Study of Flow and Acoustic Phenomena in Tube Banks, *J. of Fluids Eng.*, Ser. 1, 1977, No. 4, 681–686.
62. Archibald, F. S., Self-Excitation of an Acoustic Resonance by Vortex Shedding, *J. of Sound and Vibration*, 1977, **38**, No. 1, 81–103.
63. Parker, R., Acoustic Resonances in Passages Containing Banks of Heat Exchanger Tubes, *J. of Sound and Vibration*, 1978, **57**, No. 2, 245–260.
64. Zdravkovich, M. M., and Nuttall, J. A., On the Elimination of Aerodynamic Noise in a Staggered Tube Bank, *J. of Sound and Vibration*, 1974, **34**, No. 2, 173–177.
65. Grosman, D. J., Experimental Development of Design Criteria to Limit Cross Flow Induced Vibration in Nuclear Reactor Heat Exchange Equipment, *J. Nucl. Sci. and Eng.*, 1977, **61**, 324–336.
66. Žukauskas, A. A., and Žiugžda, J. J., *Heat Transfer of a Cylinder in Crossflow*, Hemisphere Publishing Corporation, New York, 1985.
67. Petrie, A. M., Effect of Free-Stream Turbulence on Vortex Shedding in the Wakes of Cylinders in Cross-Flow, *J. of Sound and Vibration*, 1974, **34**, No. 2, 287–290.
68. Vickery, B. J., Fluctuating Lift and Drag on a Long Cylinder of Square Cross-Section in Smooth and Turbulent Stream, *J. Fluid Mech.*, 1966, **25**, Part 3, 481–494.
69. Davenport, A. G., The Influence of Turbulence on the Aeroelastic Responses of Tall Structures to Wind. Practical Experiences with Flow-Induced Vibration, *Proc. of the Symp.*, Karlsruhe, Germany, September 3–6, 1979, Springer-Verlag, Berlin, Heidelberg, New York, 1980, 681–695.
70. Southworth, P. J., and Zdravkovich, M. M., Effect of Grid-Turbulence on the Fluid-Elastic Vibrations of In-Line Tube Banks in Cross Flow, *J. of Sound and Vibration*, 1975, **39**, No. 4, 464–469.
71. Soper, B. M. H., The Effect of Grid Generated Turbulence on the Fluidelastic Instability of Tube Bundles in Cross Flow, *Advancement in Heat Exchangers, Intern. Seminar*, Dubrovnik, Yugoslavia, September 7–12, 1981.
72. Stasiulevičius, J., and Skrinška, A., *Heat Transfer of Finned Tube Bundles in Crossflow*, Hemisphere Publishing Corporation, New York, 1988.
73. Mair, W. A., Jones, F. D. F., and Palmer, R. K. W., Vortex Shedding from Finned Tubes, *J. of Sound and Vibration*, 1975, **39**, No. 3, 293–296.
74. Southworth, P. J., and Zdravkovitsh, M. M., Cross Flow-Induced Vibrations of Finite Tube Banks in In-Line Arrangements, *J. Mech. Eng. Sci.*, 1975, **17**, No. 4, 190–198.
75. Perednis, E., and Svyadosch, V., Fluid Flows over Bundles of Finned Tubes and their Stability. Engineering Aero-Hydroelasticity, *Proc. Intern. Conf. EAHE*, Prague, December 5–8, 1989, 169–173.
76. Ota, T., and Nishiyama, H., Flow around Two Elliptical Cylinders in Tandem Arrangement, *J. of Fluids Eng.*, 1986, **108**, No. 1, 98–103.
77. Devnin, S. I., *Aero- and Fluid Mechanics of Bluff Structures*, Sudostroyenie Press, Leningrad, 1983 (in Russian).
78. Toebes, G. H., and Eagleson, P. S., Hydroelastic Vibrations of Flat Plates Related to Trailing Edge Geometry, *J. of Basic Eng.*, 1961, 671–678.
79. Bychkov, N. M., and Dikovskaya, N. D., *Aeroelastic Vibrations of a Cylinder near a Flat Screen, Hydroelasticity and Durability of Power Plant*, Academy of Sciences of the USSR, A. A. Blagonravov Institute of Machine Research, Lithuanian Academy of Sciences, Institute for Physical and Technical Problems of Power Engineering, Kaunas, 1990, 175–176. (in Russian).
80. Bearman, P. W., and Zdravkovich, M. M., Flow around a Circular Cylinder near a Plane Boundary, *J. Fluid Mech.*, 1978, **89**, 33–47.
81. Buresti, G., and Lanciotti, A., Vortex Shedding from Smooth and Roughened Cylinders in Cross

- Flow near a Plane Surface, *The Aeronautical Quart.*, 1979, **30**, 305–321.
82. Angrilli, F., Bergamaschi, S., and Cossalter, V., Investigation of Wall Induced Modifications to Vortex Shedding from a Circular Cylinder, *Trans. ASME, J. Fluids Engng.*, 1982, **4**, No. 4.
  83. Aiba, S., Heat Transfer around a Circular Cylinder near a Plane Surface, *Trans. ASME, Journal of Heat Transfer*, 1985, **104**, No. 4, 916–921.
  84. Gross, H. G., *Untersuchung aeroelastischer Schwingungsmechanismen und deren Berücksichtigung bei der Auslegung von Rohrbündelwärmetauschern*, Diss. Der Universität Hannover, 1975, p. 129.
  85. Mayinger, F., and Gross, H. G., *Vibration in Heat Exchangers. Heat Exchangers. Thermal-Hydraulic Fundamentals and Design*, McGraw-Hill Book Company, Washington, New York, London, 1981, 981–997.
  86. Bearman, P. W., and Wadcock, A. J., The Interaction between a Pair of Circular Cylinders Normal to a Stream, *J. of Fluid Mech.*, 1973, **61**, Part 3, 499–511.
  87. Quadiflieg, H., Wirbelinduzierte Belastungen eines Zylinderpaares in inkompresemblen Strömung bei grossen Reynolds Zahlen, *Forsch. Ing. Wes.*, 1977, **Bd. 43**, No. 1, 9–18.
  88. Zdravkovich, M. M., Review of Flow Interference between Two Circular Cylinders in Various Arrangements, *Trans. ASME, J. Fluids Engng.*, 1977, **99**, 618–633.
  89. Kiya, M., Arie, M., Tamura, H., and Mori, H., Vortex Shedding from Two Circular Cylinders in Staggered Arrangement, *Trans. ASME, J. Fluids Engng.*, 1980, **102**, 166–175.
  90. Schlichting, H., *Boundary Layer Theory*, McGraw-Hill, New York, 1968.
  91. Sallet, D. W., *On the Prediction of Flusster Forces. Flow-Induced Structural Vibrations*, Germany, Berlin, Heidelberg, New York, 1974, pp. 158–176.
  92. Gerlach, G. R., and Dodge, F. T., An Engineering Approach to Tube Flow-Induced Vibrations. Flow-Induced Vibration in Heat Exchangers, *Proc. of ASME, Winter Annual Meeting*, New York, December 1, 1970, New York, ASME, 18–26.
  93. Kacker, S. C., Pennington, B., and Hill, R. S., Measurements of the Fluctuating Lift Coefficient and the Correlation Length for Vortex Shedding from Cylindrical Tubes, *Intern. Symp. on Vibr. Probl. in Industry*, Keswick, England, 1973, Paper No. 416, 1–22.
  94. Ornatskiy, A. P., Drag of a Tube Bundle as a Function of the Angle of Incidence of a Gas Flow, *Kotloturbostroyeniye*, 1947, No. 2, 13–15.
  95. Kazakevich, F. P., Aerodynamic Drag of Tube Bundles in Oblique Gas Flows, *Proc. of the Dnepropetrovsk Institute of Railroad Transport*, 1958, Issue XXVI, 114–122.
  96. Pavlyukhina, M. A., and Smirnov, L. P., Vortex Wake in a Flow Past Vibrating Cylinders, *Izv. AN SSSR (Otd. Tekh. Nauk)*, 1958, No. 8, 124–127.
  97. Hartlen, R. T., and Currie, I. G., Lift-Oscillator Model of Vortex-Induced Vibration, *J. of the Eng. Mech., Div. Proc. of the ASCE*, 1970, **96**, No. EM. 5, 577–592.
  98. Ferguson, N., and Parkinson, G. V., Surface and Wake Flow Phenomena of a Vortex-Excited Oscillation of a Circular Cylinder, *Journal of Engineering for Industry*, 1967, **89**, No. 4, 831–838.
  99. Sinyavskiy, V. F., Fedotovskiy, V. S., Kukhtin, A. B., and Spirov, V. S., *The Effect of a Relative Pitch, an Array Shape and a Vibration Direction on the Inertial and Damping Characteristics of Single Cylinders and Rod Bundles in Fluid*, Preprint No. 818 of the Physical Power Institute, Obninsk, 1978.
  100. Sinyavskiy, V. F., Fedotovskiy, F. S., and Kukhtin, A. B., Inertial Characteristics and Fluid-Dynamic Vibrations of Circular Cylinders in a Liquid Medium, *Prikl. Mekh.*, 1980, **XVI**, No. 4, 115–121.
  101. Fedenko, V. I., On an Approximate Method of Predicting the Additional Mass of Fluid in Flow Past Multirow Rod Arrays, *Prikl. Mat. Tekh. Fiz.*, 1970, No. 5, 50–54.
  102. Clasen, P., Die "Hydrodinamische Masse" eines Rohres in einem Rohrbündel. *Forschung in Ingenieurwesen*, 1972, **Bd. 38**, No 2, 33–64.
  103. Shimogo, T., and Inui, R., Coupled Vibration of Many Elastic Circular Bars, *Proc. 21st Japa-*

- nese Nation. *Congr. Appl. Mech.*, Tokyo, 1973, 2, 495–505.
104. Paliūnas, V. A., and Paliūnė, A. I., *Free Vibrations of Rods in Fluid*, Mokslas Press, Vilnius, 1978 (in Russian).
  105. Hart, G. and Ibañez, P., Experimental Determination of Damping in Nuclear Power Plant Structures and Equipment, *Nucl. Eng. and Design*, 1973, 25, No. 2, 112–125.
  106. Morrone, A., Damping Values of Nuclear Power Plant Components, *Nucl. Eng. and Design*, 1974, 26, No. 3, 343–363.
  107. Fokin, B. S., Goldberg, Ye. N., Akselrod, A. F., and Ivanov, B. N., Vibration Security of a Tube Bundle of an Upright Steam Generator. Improvement of Operation Reliability of the Equipment of Atomic Electric Power Plants, *Trudy TsKTI*, 1983, Issue 205, 24–27.
  108. Akselrod, A. F., and Fokin, B. S., Prediction of Vibration Stability of the Tubes of an Upright Steam Generator, *Energomashinostroyeniye*, 1985, No. 3, 2–4.
  109. Makhutov, N. A., Kaplunov, S. M., and Pruss, L. V., *Vibration and Durability of Marine Power Equipment*, Sudostroyeniye Press, Leningrad, 1985 (in Russian).
  110. *Norms of Designing Stability of the Elements of Reactors, Steam Generators, Tanks and Tubing of Atomic Electric Power Plants and of Experimental and Research Nuclear Reactors and Plants*, Metallurgiya Press, Moscow, 1973 (in Russian).
  111. Fesenko, S. S., Gusarov, A. A., and Kaplunov, S. M., The Effect of an Axial Force on the Frequency Characteristics of Heat-Transfer Tubes. *Dynamic Characteristics and Vibrations of Power Plant Elements*, Nauka Press, Moscow, 1980, pp. 98–102 (in Russian).
  112. Valiens, N. G., Gusarov, A. A., and Kaplunov, S. M., Determination of the Natural Modes and Frequencies for an Arbitrary Tube Bundle Vibrating in Fluid, *Dynamic Characteristics and Vibrations of Power Plant Elements*, Nauka Press, Moscow, 1980, 81–85 (in Russian).
  113. Kotov, V. V., Rzhvskaya, I. Ya., and Likhareva, T. P., On the Choice of the Material of Tubes for Heat Exchangers. Improving the Operation Reliability of the Equipment of Atomic Electric Power Plants, *Trudy TsKTI*, 1983, Issue 205, 51–58.
  114. Rassokin, N. G., *Steam Generators of Atomic Electric Power Plants*, Atomizdat Press, Moscow, 1985 (in Russian).
  115. Blevins, R. D., Vibration-Induced Wear of Heat Exchanger Tubes, *Trans. ASME, J. of Engineering Materials and Technology*, 1985, 107, No. 1.
  116. *Steam Generators of Atomic Electric Power Plants. Prediction of the Vibrations of Heat-Transfer Tubes*. Guiding Technical Material No. 108. 302. 03-86, NPO TsKTI Press, Leningrad, 1987.
  117. Bleavers, G. S., and Plunkett, R., *Modeling of Flow-Induced Vibrations in Heat Exchangers and Nuclear Reactors*, ASME, Paper No. 74-FE-31, 1974, pp. 1–9.
  118. Kaplunov, S. M., Gusarov, A. A., and Dranchenko, B. M., Physical Modeling of the Dynamic Processes Occurring in Water–Water Energy Reactors, *Dynamic Strains in Power Equipment*, Nauka Press, Moscow, 1978, pp. 49–57 (in Russian).
  119. Milne-Thompson, L. M., *Theoretical Hydrodynamics*, The MacMillan Company, New York, 1960.
  120. Sarpkaya, T., and Schoaff, R. L., Inviscid Model of Two-Dimensional Vortex Shedding by a Circular Cylinder, *AIAA J.*, 1979, 17, No. 11, 1193–1200.
  121. Stansby, P. K., A Numerical Study of Vortex Shedding from One and Two Circular Cylinders, *The Aeronaut. Quart.*, 1981, 32, Part 1, 48–71.
  122. Schewe, G., On Force Fluctuations Acting on a Circular Cylinder in Cross-Flow from Subcritical up to Transcritical Reynolds Numbers, *J. of Fluid Mech.*, 1983, 1, 265–285.
  123. Roshko, A., *On the Drag and Shedding Frequency of Two-Dimensional Bluff Bodies*, NACA TN 3169, 1954.
  124. Hinze, J. O., *Turbulence*, McGraw-Hill, 1975.
  125. Groehn, R. G., and Shtolz, F., Investigations of Steam Generator Models of In-Line Tube

- Arrangement and Multistart Helices Design in Pressurized Air and Helium, *Berichte der Kernforschungsanlage, Jülich, GmbH*, N 040/71-09, Institut für Reaktorbauelemente, 1971.
126. Preobrazhenskiy, V. V., *Heat Engineering Measurements and Instruments*, Energiya Press, Moscow, 1978 (in Russian).
  127. Doebelin, E. O., *Measurement Systems: Application and Design*, McGraw-Hill Book Company, New York, 1966.
  128. Kjellström, B., Studies of Turbulent Flow Parallel to a Rod Bundle of Triangular Array, *Aktiebolaget Atomenergi*, AE-Sweden, 1974.
  129. Bruun, H. H., *The Performance of Normal and Yawed Hot Wires*, ISVR Technical Report. No. 21, 1969.
  130. Ankundinov, D. T., and Mamayev, K. N., *Resistance Strain Gauges of Small Nominal Length*, Mashinostroyeniye Press, Moscow, 1968. (in Russian).
  131. Nemets, I., *Practical Application of Resistance Strain Gauges*, Energiya Press, Moscow, 1970. (in Russian).
  132. Uik, G. K., *Tensometry of High-Pressure Devices*, Mashinovedeniye Press, Leningrad, 1974 (in Russian).
  133. Vasiliev, A. A., Busygin, A. I., Daichik, M. L., and Prigovorskiy, M. I., The Methods and Means of Tensometry of Reactor Structures on the Test Stands and in the Operational Conditions, *Study of Stresses and Strength of Reactor Frame*, Atomizdat Press, Moscow, 1968, pp. 228–240 (in Russian).
  134. Voskoboinikov, Yu. E., Preobrazhenskiy, N. G., and Sedelnikov, A. I., *Mathematical Processing of Experimental Data in Molecular Gasdynamics*, Mir Press, Moscow, 1974 (in Russian).
  135. Bendat, J. S., and Piersol, A. G., *Measurement and Analysis of Random Data*, J. Wiley and Sons, 1966.
  136. Ventsel, Ye. S., *Theory of Probability*, IFML Press, Moscow, 1969 (in Russian).
  137. Zaidel, A. N., *Errors of the Measurements of Physical Quantities*, Nauka Press, Leningrad, 1974 (in Russian).
  138. Schenk, H., *Theories of Engineering Experimentation*, McGraw-Hill Book Company, New York, 1970.
  139. Janossy, L., *Theory and Practice of the Evaluation of Measurements*, Oxford University Press, 1965.
  140. Gukhman, A. A., *Introduction into the Similarity Theory*, Energiya Press, Moscow, 1963 (in Russian).
  141. Batham, J. P., Pressure Distribution on In-Line Tube Arrays in Cross Flow, *Intern. Symp. on Vibr. Probl. in Industry*, Paper No. 411, Keswick, England, 1973, pp. 1–24.
  142. Katinas, V. J., Šuksteris, V. S., and Žukauskas, A. A., Statistical Analysis of Pressure Fluctuations on the Surface of Tubes in Air Cross Flow, *Trudy AN LitSSR*, Ser. C, 1985, 2 (147), 49–55.
  143. Katinas, V. J., and Bakas, R. V., Nonsteady Fluid-Dynamic Processes in Detached Flow Past Tubes, *Physical Technical Problems of Power Engineering*, Collection of Scientific Works, Academy of Sciences of the Lithuanian SSR, Institute of Physical Technical Problems of Power Engineering, Kaunas, 1986, pp. 109–144 (in Russian).
  144. Arie, M., Riya, M., Moriya, M., and Mori, H., Pressure Fluctuations on the Surface of Two Circular Cylinders in Tandem Arrangement, *Trans. ASME, J. of Basic Engng.*, 1983, 105, No. 3.
  145. Humphreys, J. S., On a Circular Cylinder in a Steady Wind at Transition Reynolds Numbers, *J. Fluid Mech.*, 1969, 9, No. 4, 603–612.
  146. Richter, A., and Naudascher, E., Fluctuating Forces on Rigid Circular Cylinder in Confined Flow, *J. Fluid Mech.*, 1976, 78, Part 3, 561–576.
  147. Treshcherskiy, V. N., Volkov, L. D., and Korotkin, A. I., *Aerodynamic Experiment in Shipbuilding*, Sudostroyeniye Press, Leningrad, 1976, pp. 136–149 (in Russian).
  148. Phillips, O. M., The Intensity of Aelon Tones, *J. Fluid Mech.*, 1956, 1, No. 6, 607–624.

149. Ukhanova, L. N., Statistical Characteristics of a Plane Turbulent Wake at a Small Distance from a Cylinder, *Promyshl. Aerodinamika*, 1966, Issue 27, 83–95.
150. Korotkin, A. I., On the Three-Dimensional Character of Cross Flow Past a Circular Cylinder, *Uch. Zap. TsAGI*, 1973, IV, No. 5, 26–33.
151. Marris, A. W., A review on Vortex Streets, Periodic Wakes, and Induced Vibration Phenomena, *J. of Basic Engng., Trans. ASME*, Ser. D., 1964, **86**, 185–196.
152. Kestin, J., and Wood, R. T., On the Stability of Two-Dimensional Stagnation Flow, *J. Fluid Mech.*, 1970, **44**, No. 3, 461–480.
153. King, R., A Review of Vortex Shedding Research and its Application, *Ocean Engineering*, 1977, **4**, 141–171.
154. Žukauskas, A., and Katinas, V., Flow-Induced Vibration in Heat Exchanger Tube Banks, *Pract. Experiences with Flow-Induced Vibrations*, Springer-Verlag, Berlin, Heidelberg, New York, 1980, pp. 188–196.
155. Price, S. J., Paidoussis, M. P., MacDonald, R., and Mark, B., The Flow-Induced Vibration of a Single Flexible Cylinder in a Rotated Square Array of Rigid Cylinders with Pitch-to-Diameter Ratio of 2.12, *J. of Fluids and Structures*, 1987, **1**, 359–378.
156. Weaver, D. S., and Fitzpatrick, J. A., A Review of Cross-Flow Induced Vibrations in Heat Exchanger Tube Arrays, *J. of Fluids and Structures*, 1988, **2**, 73–93.
157. Mohr, K.-H., *Messungen instationärer Drücke bei Queranströmung von Kreiszyklindern unter Berücksichtigung fluidelastischer Effekte*, Diss. T. H., Ashen (D28), 1981.
158. Brezgin, V. I., *Dynamic Loads and Vibration Characteristics of the Tube Systems of Power Heat Exchangers*, Author's Abstract of Diss., Urals Polytechn. Institute, Sverdlovsk, 1990.
159. Chen, S. S., Crossflow-Induced Vibrations of Heat Exchanger Tube Banks, *Nucl. Eng. and Design*, 1978, **47**, No. 1, 67–86.
160. Žukauskas, A., and Katinas, V., Fluid Excitation Forces of Tube Bundles in Turbulent Separated Flows, Eng. Aero-Hydroelasticity, *Proc. Int. Conf. EAHE*, December 5-8, 1989, Prague 1989, pp. 174–178.
161. Katinas, V. J., Markevičius, A. A., and Žukauskas, A. A., Heat Transfer Behaviour of Vibrating in Crossflow (1. Temperature and Velocity Fluctuations), *Heat Transfer – Soviet Research*, 1986, **18**, No. 2, 1–9.
162. Katinas, V. J., Šuksteris, V. S., and Žukauskas, A. A., Cross-Flow of Air over and Vibrations of an Elastically Supported Cylinder, *Int. Chem. Engng.*, 1977, **17**, No. 4, 666–672.
163. Timoshenko, S. P., and Young, D. H., *Vibration Problems in Engineering*, Van Nostran-Reinhold, New York, 1955.
164. Den Hartog, J. P., *Mechanical Vibrations*, McGraw-Hill, 1956.
165. Bolotin, V. V., Ed., *Vibrations in the Equipment. Handbook*, Vol. 1, Mashinostroyeniye Press, Moscow, 1978 (in Russian).
166. Soper, B. M. H., Flow Induced Vibration in Shell and Tube Heat Exchangers, *Entropie*, 1981, No. 99, 34–40.
167. Fedorovich, Ye. D., Fokin, B. S., and Akselrod, A. F., *Vibration of Elements of the Equipment of Nuclear Power Plants*, Energoatomizdat Press, Moscow, 1989 (in Russian).
168. Chenoweth, J. M., *Flow-Induced Vibration. Heat Exchanger Design Handbook. Mechanical Design of Heat Exchangers*, Hemisphere Publishing Corporation, Washington, New York, London, 1983, Vol. 4.
169. Klimanov, V. I., Brodov, Yu. M., Plotnikov, P. N., and Kuptsov, V. K., Study of the Effect of the Dimensions of Intermediate Partitions on the Vibration Parameters of Heat Exchangers, *Energo-mashinostroyeniye*, 1982, No. 4, 14–16.
170. Gusarov, A. A., and Fyodorov, V. G., Prediction of the Forced Bending Vibrations of Heat Exchanger Tubes with Account of the Clearances in Spacing Grids, *Dynamic Stresses and Strains in Power Equipment Elements*, Nauka Press, Moscow, 1977 (in Russian).



171. Sebold, J. S., and Nobles, W. D., Control of Tube Vibration in Steam Surfaces Condensers, *Proc. of Amer. Power Conf.*, 1962, XXIV, 630–643.
172. Shimanskii, Yu. A., *Dynamic Design of Marine Structures*, Sudostroyeniye Press, Leningrad, 1948 (in Russian).
173. Karpushin, V. B., *Vibration Noises of Radio Equipment*, Sovetskoye Radio Press, Moscow, 1977 (in Russian).
174. Crandall, S. H., and Mark, W. D., *Random Vibration in Mechanical Systems*, Academic Press, New York, London, 1963.
175. Katinas, V. J., Markevičius, A. A., and Žukauskas, A. A., Vibrations of Tube Bundles in the Cross Flows of Viscous Heat-Transfer Agents, *Mashinostroyeniye*, 1982, No. 4, 21–25.
176. Roberts, B. W., Low Frequency, Aeroelastic Vibrations in a Cascade of Circular Cylinders, *Mech. Eng. Sci. Monograph*, 1966, No. 4, 1–29.
177. Katinas, V., Tumosa, A., and Žukauskas, A. A., Forces of Tubes Asymmetrically Arranged in a Vertical Row Transverse to the Flow, *Heat Transfer – Soviet Research*, 1988, 20, No. 3, 329–376.
178. Tsyarkin, A. G., *Handbook on Mathematics for Secondary Schools*, Nauka Press, Moscow, 1983 (in Russian).
179. Korn, G., and Korn, T., *Handbook on Mathematics for Scientific Workers*, Nauka Press, Moscow, 1973 (in Russian).
180. Ebert, H., *Physics Pocketbook*, Wiley, 1967.
181. Yavorskiy, B. M., and Dettlaf, A. A., *Handbook on Physics*, Nauka Press, Moscow, 1988 (in Russian).
182. Dye, R. C. F., and Abrahams, G. G. H., *An Investigation of the Aerodynamic Stability of a Cross-Flow Type Finned Tube Heat Exchanger*, Paper 68-WA/HT-19, USA: ASME, 1968.
183. Nagamatsu, B. H., and Rolsma, E., *Row Depth Effects on Vortex Shedding and Turbulent Buffet-ting Formation in a Finned Tube Bank*, Paper AIAA-82-0982, 1982.
184. Kouba, J., A Contribution to Random Excitation of a Finned Tube Bundle in Cross-Flow, Eng. Aero-Hydroelasticity, *Proc. of Int. Conf. EAHE*, December 5–8, 1989, Prague, pp. 136–141.
185. Drake, R. M., Seban, R. A., Douhty, D. L., and Levy, S., Local Heat-Transfer Coefficients on Surface of an Elliptical Cylinder, Axis Ratio 1-3, in a High-Speed Air Stream, *Trans. ASME*, 1953, 75, 1291–1302.
186. Windig, C. C., and Cheney, A. J., Mass and Heat Transfer in Tube Banks, *Industr. and Eng. Chem.*, 1948, 40, No. 6, 1087–1093.
187. Seban, R. A., The Influence of Free Stream Turbulence on the Local Heat Transfer from Cylinders, *Trans. ASME*, Ser. C, *J. of Heat Transfer*, 1960, 82, No. 2, 101–107.
188. Modi, V. J., and Wiland, E., Unsteady Aerodynamics of Stationary Elliptic Cylinders in Subcritical Flow, *AIAA J.*, 1970, 8, No. 10, 1814–1821.
189. Modi, V. J., and Dikshit, A. K., Near-Wakes of Elliptic Cylinders in Subcritical Flow, *AIAA J.*, 1975, 13, No. 4, 490–497.
190. Katinas, V. J., Bakas, R. V., Perednis, E. E., and Svyadoshch, V. A., Effect of the Incident Flow Turbulence on Vibrations of Tube Bundles in Cross Flow, *Trudy AN LiSSR*, Ser. B, 1989, 6 (175), 64–70.
191. Katinas, V. J., Aero- and Hydroelasticity of Heat Exchanger Tube Bundles in Detached Turbulent Flow, *Energetika*, 1991, No. 2, 16–29.
192. Katinas, V. J., Zhyugzhda, I. I., Zhukauskas, A. A., and Shveghzda, S. A., The Effect of the Turbulence of an Approaching Stream of Viscous Fluid on Local Heat Transfer from a Circular Cylinder, *Int. Chem. Eng.*, 1976, 16, No. 2, 283–294.
193. Katinas, V. J., Tumosa, A. I., and Žukauskas, A. A., Flow over and Heat Transfer from an Installed Asymmetrically (out of Pattern) in Single Transverse Row (Simulating a Bundle), *Heat Transfer – Soviet Research*, 1987, 19, No. 6, 22–30.

194. Žukauskas, A., and Katinas, V., Heat Transfer in Asymmetric Transverse Flows over Bundles of Tubes, *Wärme- und Stoffübertragung*, 1992, No. 27, 259–263.
195. Katinas, V., Tumosa, A., and Žukauskas, A., A Wall Effect on the Flow over and Heat Transfer of Tube Bundles, *Energetika*, 1991, No. 1, 144–153.
196. Parkinson, G. V., and Grecks, N. P. H., On the Aeroelastic Instability of Bluff Cylinders, *J. of Appl. Mech., Trans. ASME*, Ser. E, 1961, **28**, No. 2, 252–258.
197. Dierckx, P., Algorithm 42. An Algorithm for Cubic Spline Fitting with Convexity Constraints, *Computing*, 1980, **34**, 349–371.
198. Hanson, A. R., Vortex Shedding from Yawed Cylinders, *AIAA J.*, 1966, **4**, No. 4, 738–740.
199. Van Atta, C. L., Experiments on Vortex Shedding from Yawed Circular Cylinders, *AIAA J.*, 1968, **6**, No.5, 931–933.
200. Chiu, W. S., On Real Fluid Flow over Yawed Circular Cylinders, *J. of Basic Engng.*, 1967, **89**, No. 4, 851–859.
201. Katinas, V. J., Perednis, E. E., and Žukauskas, A. A., Hydraulic Drag of Tube Bundles vs Angle of Attack of a Viscous Fluid, *Fluid Mechanics – Soviet Research*, 1982, **11**, No. 2, 66–74.
202. Žukauskas, A. A., Katinas, V. J., Perednis, E. E., and Sobolev, V. A., The Viscous Fluid Flow over Inclined In-Line Tube Bundles and Vibrations Induced by it, *Trudy AN LitSSR*, Ser. B, 1979, **3 (112)**, 101–102.
203. Žukauskas, A. A., Katinas, V. I., Šuksteris, V. S., and Mikishev, A. N., Flow, Hydrodynamic Forces, and Hydraulic Drag in Staggered Radial Tube Bundles in Crossflow of Viscous Liquid, *Fluid Mechanics – Soviet Research*, 1978, **7**, No. 6, 60–71.
204. Žukauskas, A. A., and Katinas, V. J., Flow Induced Vibration and Fluid Dynamics of Radial Bundles of Heat-Exchanger Tubes in Cross Flow, *Symp. on Flow-Induced Vibrations*, Vibration of Arrays of Cylinders in Cross Flow, New Orleans, Louisiana, December 9–13, 1984, **2**, 305–315.
205. Žukauskas, A. A., and Katinas, V. J., Flow-Induced Vibration and Fluid Dynamics of Radial Bundles of Heat Exchanger Tubes in Crossflow, *Proc. of ASME Joint Multidivisional Symp. on Flow-Induced Vibration*, New Orleans, Louisiana, Dec. 9–13, 1984., **2**, B3.049.
206. Katinas, V. J., Shuksteris, V. S., and Mikishev, A. N., Vibrations of Bend Tubes in a Bundle Due to Cross Flow of a Water Stream, *Int. Chemical Engineering*, 1982, **22**, No. 4, 756–763.
207. Brodov, Yu. M., Kuptsov, V. K., and Plotnikov, P. N., Vibration Parameters of Tubes of the PSV-500-14-23 Mains Water Heater in Operational Conditions, *Izv. VUZov SSSR, Energetika*, 1983, No. 4, 88–90.